

Work Order ID 66759

Friday, February 25, 2011 1:27:08 PM



Page 1

Item ID: D350-636-011

Accept



Setup Start



Revision ID:

Stop



Item Name: Skidtube LH

Start Date: 2/25/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 3/11/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

[Signature]

Date: 11-02-25

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

IIN-D350-636

H

0.00

100



DOCUMENT CONTROL

0.00

DC

Memo

Photocopy blue file and type labels per PPP D350-636-011 CHG 006

Document Control

Sul03/28

B67
CK 11/03/28
1

B66759

H:\FORMS\Quality Ass...

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

110

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1- Pick D2600-3 Bent

2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D2750

3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500", deburr.

4- Locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade fitting

5- Drill only two fwd step holes using DT9616. Ensure proper positioning.

6- Drill pilot holes as per Dwg D2750 sheet 4 (D2750-1 details). Drill using drill Jig DT8150 & DT8863A for first side only DT8863B for second side (detail B)

7- Clecko DT8863B on second side of tube and drill pilot holes for detail B.
SECOND SIDE

8-Open up holes for Detail B to 0.375" (4 holes per side) and blade fitting location holes to 0.500" (total of 4 holes per side) as per dwg D2750. Open up holes for ground handling and detail C to 0.500" (8 holes per side)

9-Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297".

10-Open up holes of Detail A to 0.297" (total of 2 holes per side)

1 0 8211/23/10

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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

11-Weld D2744 Cap as per Dwg D2750 and QSI 004. Fill grooves in bend left
from bending as per QSI 004

A/R Aluminum Rod batch: ☐

M116577

BE 11/03/10

12-Grind welds flush as per Dwg D2750

120



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

Substn

130



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

Substn



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Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

140

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

1 11/03/11

150

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

11-3-14

W/O:		WORK ORDER CHANGES					
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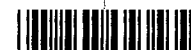
Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160

0.00



Skidtubes

Skidtubes

0.00

Skidtubes

Memo

1-Open up holes of Detail C and ground handling to 0.625" (total of 8 holes per side)
as per dwg D2750.

2-Open up holes of Detail B to 0.750" (total of 4 holes per side)
as per dwg D2750.

3- Open float hole to 0.500" (4 per side)

4-Chamfer holes of Detail B, C, ground handling and float holes per dwg D2750
(welding instructions on sheet 8)

5-Deburr and blow out all chips from inside of tube

6- Prepare tube for welding, remove alodine as required.

7-Bond web D2739 in place as per QSI 015

A/R ☐ ☐ ☐ Sikaflex-291

batch: M116040

exp. date: 11-9-30

8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D2750 & QSI004
(welding instructions on sheet 8)

A/R ☐ ☐ ☐ Aluminum Rod

batch: M116577

9- At section AJ-AJ drill out x-bolt spacer to 0.404"

10-Grind welds flush as per Dwg D2750

Handwritten signature

11-3-14

BE 11/03/17

W/O:		WORK ORDER CHANGES					
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Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start
Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

11-Spot face ground handling holes section (total of 4 places per side) as per
dwg D2750

BE 11/03/17

12-Deburr holes

BE 11/03/17

170

QC10- Inspect visual per QSI004- ground welds

0.00

QC

Memo

0.00

Quality Control

Sul03/21

180

QC5- Inspect part completeness to step on W/O

0.00

QC

Memo

0.00

Quality Control

Sul03/21

W/O:		WORK ORDER CHANGES					
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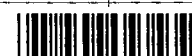
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Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

190

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

1 BR 11-8-22

200

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

0.00

Powder Coating

START TIME: 7:15
OVEN TEMPERATURE: 320°
FINISH TIME: 7:45

1 BR 11-3-23

210

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

Inspect for foreign object per QSI 024

= 7 m.l 11/03/25



W/O:		WORK ORDER CHANGES						
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Run Start



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Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

220

0.00



HandFinishing

HandFinish

Memo

0.00

Hand Finishing

1- Install inserts as per Dwg D2750

⇒ m.k 11/03/25

(IX)

230

0.00



HandFinishing

HandFinish

Memo

0.00

Hand Finishing

1-Inspect for Foreign Objects

2-Spray inside of tube with "LPS-3" batch: N/A

3-Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D2750

SIKA FLEX 241

BATCH: M116040

EXP DATE: 11/09

4-assemble o'ring to plug as per dwg D3492 and apply o'ring lube

A/R 55-o'ring lube batch: M114189

5-Coat all exposed fasteners with "LPS Procyon" batch: M114596

m.k 11/03/25

(IX)

W/O:		WORK ORDER CHANGES					
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Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

240

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

8/10/28

ⓧ

250

Pick Kit

0.00



Packaging

Memo

0.00

Packaging

8/10/28 ⓧ

260

QC4- 100% Inspect kits for completeness

0.00



QC

Memo

0.00

Quality Control

8/10/28

ⓧ

*****ensure antiseize is on AN8C21A bolts*****

W/O:		WORK ORDER CHANGES					
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Customer:

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

270

0.00



Packaging

Packaging

Memo

0.00

Packaging

Package as per PPP D350-636-011

280

0.00



QC

QC21- Final Inspection - Work Order Release

Memo

0.00

Quality Control

11-03-28

W/O:		WORK ORDER CHANGES					
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Picklist Print

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Page 1

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Parent Item Name: Skidtube LH

Start Date: 2/25/2011

Required Date: 3/11/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev: I 02.09.25 Rearranged procedure steps KJ
 IPP Rev: J 06-03-23 As per Rev D JLM
 IPP Rev: K 06-07.13 As per dsi9343 EC
 IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC
 IPP Rev: M 08-04-22 update steps 4, 13 DD verified by: EC
 IPP Rev: N 08-09-23 revF as per dwg DD verified by: ec
 IPP Rev: O 09-02-06 apply antiseize on AN8C21A bolts as per PAR09-010
 DD verified by: EC IPP Rev: P 10.06.22
 revise seq110 DD verf: EC IPP Rev: Q 10.10.01 as per IIN
 revH DD verf: EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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D2594-3

Manufactured

No

230

Each

1,031.000

8

8



O-Ring, 205 Skidtube



MA 11/03/25

Location

Loc Qty

Loc Code

FP

543

55546

19

58191

12

59358

12

65518 ✓

500

8x

fpa

488

61762

488

AN960JD816

Purchased

No

250

Each

89.0000

2

2



1/2" washer, Alum



106043

Location

Loc Qty

Loc Code

ST348

89

106043

89

106043

MA 11/97

W/O:		WORK ORDER CHANGES					
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Start Date: 2/25/2011

Required Date: 3/11/2011

Start Qty: 1.00

Required Qty: 1.00

D2744 Manufactured No 110 Each 55.0000 1 1



Cap



BE 11/03/10

Location

Loc Qty

Loc Code

LG 29
65086 29
ST 26
62715 26

D2600-3-BENT Manufactured No 110 Each 6.0000 1 1



Extrusion Bent



BE 11/03/10

B 66875 (K1)

Location

Loc Qty

Loc Code

LG 6
61634 2
62764 1
64434 3

D2743 Manufactured No 160 Each 122.0000 8 8



Crossbolt Spacer



BE 11/03/17

Location

Loc Qty

Loc Code

LG 122
50281 10
57953 2
59111 10
61844 16
64003 84

8

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Shop Packet Print

Page 2

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Start Date: 2/25/2011

Required Date: 3/11/2011

Start Qty: 1.00

Required Qty: 1.00

D2739
350 I Beam

Manufactured No

160 Each

4.0000

1 1

Location

Loc Qty

Loc Code

LG

4

64448

4

Manufactured No

160 Each

35.0000

D3490-3
Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG

35

60294

1

63556

24

64006

10

Manufactured No

160 Each

61.0000

D3490-1
Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG

61

59424

3

62450

48

64005

10

Purchased No

220 Each

3,945.000

38 38

ALS4-1032-225
Insert

Location

Loc Qty

Loc Code

PK011

3945

110768

3945

m-l 11/03/25

38x

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Start Date: 2/25/2011

Required Date: 3/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3492-041

Manufactured No

230

Each

93.0000

8

8



Plug Assembly

Location

Loc Qty

Loc Code

FP013

93

59114

1

62210

3

63994

29

65068 ✓

60



m-d 11/03/25

D3793-3

Manufactured No

230

Each

20.0000

1

1



Wearshoe

Location

Loc Qty

Loc Code

FP018

15

39479 ✓

1

39812 ✓

2

64447

12

FP18

4

61711

4

FP19

1

57947

1



m-d 11/03/25

AN8C35A

Purchased No

230

Each

61.0000

1

1



BOLT

Location

Loc Qty

Loc Code

ST345

25

116874 ✓

25

ST346

36

114442

5

115188

5

115960

26



m-d 11/03/25

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Page 4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 5

Work Order ID: 66759

Parent Item: D350-636-011

Parent Item Name: Skidtube LH



Start Date: 2/25/2011

Required Date: 3/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3793-1

Manufactured No

230

Each

25.0000

1

1



Wearshoe



m-l 11/03/25

Location

Loc Qty

Loc Code

FP018

17

39277 ✓

1

39715 ✓

2

64445

14

FP18

8

59151

1

59630

1

61710

6

IX

D3488-041

Manufactured No

230

Each

17.0000

1

1



Blade Fitting Assembly, LH



m-l 11/03/25

Location

Loc Qty

Loc Code

FG008

10

62002

10

FP18

7

61689 ✓

7

IX

D3794-3

Manufactured No

230

Each

19.0000

1

1



Gasket



m-l 11/03/25

Location

Loc Qty

Loc Code

FP010

3

39422 ✓

3

FP10

15

60826

1

61712

14

FP18

1

59153

1

IX

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Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 6

12

Work Order ID: 66759

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 2/25/2011

Required Date: 3/11/2011

Start Qty: 1.00

Required Qty: 1.00

AN6C44A

Purchased

No

230

Each

97.0000

4

4



BOLT



m-l 11/03/25

Location

Loc Qty

Loc Code

FG

2

103964

2

ST344

95

111649

2

114653

1

115936

42

116874

50

4X

MS21083C8

Purchased

No

230

Each

43.0000

1

1



NUT



m-l 11/03/25

Location

Loc Qty

Loc Code

ST303

43

113845

5

114934

3

115594

4

115884

31

1X

D3536-25

Manufactured

No

230

Each

24.0000

1

1



Gasket



m-l 11/03/25

Location

Loc Qty

Loc Code

FP

12

65903

12

FP12

9

64446

9

FP-12

3

39234

3

1X

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Page 6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 7

12

Work Order ID: 66759

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 2/25/2011

Required Date: 3/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3631-1 Manufactured No

230 Each

144.0000 8 8



Washer



M-L 11/03/25

Location

Loc Qty

Loc Code

ST072

144

63647 ✓

144

8X

D3791-1 Manufactured No

230 Each

14.0000 1 1



Wearplate



M-L 11/03/25

Location

Loc Qty

Loc Code

FP017

3

39276 ✓

1

39418

2

1X

FP17

11

62239

11

AN960C10L NAS1149C0332 Purchased No

230 Each

127.0000 38 38



washer



M-L 11/03/25

Location

Loc Qty

Loc Code

ST245

127

107534

59

108246

68

116304 (38X)

D2745 Manufactured No

230 Each

121.0000 8 8



Bushing



M-L 11/03/25

Location

Loc Qty

Loc Code

ST023

121

52311

5

59112

4

61988

4

63315 ✓

108

8X

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Page 7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 8

Work Order ID: 66759

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 2/25/2011

Required Date: 3/11/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C5A

Purchased

No

230

Each

1,024.000

34

34



Bolt



m-h 11/03/25

Location

Loc Qty

Loc Code

ST350

1024

107862

68

108302

34

114330

11

115015

13

115371

4

115422

100

115835 ✓

194

116419

500

116549

100

34x

D3537-1

Manufactured

No

230

Each

33.0000

3

3



Wearpad



m-h 11/03/25

Location

Loc Qty

Loc Code

FP017

33

37749

6

65057 ✓

27

65927

1x

2x

AN960C816L

Purchased

No

230

Each

0.0000

1

1



WASHER



m-h 11/03/25

1x

NAS1149C08332R

1x

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Friday, February 25, 2011 1:27:16 PM

Page 9

Work Order ID: 66759

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 2/25/2011

Required Date: 3/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3492-043

Manufactured No

230

Each

41.0000

8

8



Plug Assembly

Location

Loc Qty

Loc Code

FP.

2

54682

2

FP013

39

59117

1

59190

4

63996

2

65070

32

AN3C6A

Purchased

No

230

Each

359.0000

4

4



BOLT

Location

Loc Qty

Loc Code

ST351

359

111982

134

116419

75

116549

50

116704

100

NAS1611-013

Purchased

No

230

Each

248.0000

8

8



O-RING

Location

Loc Qty

Loc Code

FP

248

115460

100

115589

28

115812

20

116582

100

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 10

Work Order ID: 66759

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 2/25/2011

Required Date: 3/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3535-25

Manufactured No

230

Each

21.0000

1

1



Wearshoe

Location

Loc Qty

Loc Code

FP18

21

38867 ✓

1

39716

2

62233

6

65167

12



m-p 11/03/25

IX

D3794-1

Manufactured No

230

Each

15.0000

1

1



Gasket

Location

Loc Qty

Loc Code

FP010

15

39279

1

39421

2

61704 ✓

12



m-p 11/03/25

IX

MS21043-6

Purchased No

230

Each

546.0000

4

4



NUT

Location

Loc Qty

Loc Code

ST301

546

112314 ✓

546



m-p 11/03/25

IX

D3493-1

Manufactured No

250

Each

32.0000

2

2



Washer

Location

Loc Qty

Loc Code

ST062

32

62677

32



IX

62677

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Page 10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 11

Work Order ID: 66759

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 2/25/2011

Required Date: 3/11/2011

Start Qty: 1.00

Required Qty: 1.00

MS21083C8

Purchased

No

250

Each

43.0000

2

2



NUT

Location

Loc Qty

Loc Code

ST303

43

113845

5

114934

3

115594

4

115884

31

AN8C21A

Purchased

No

250

Each

71.0000

2

2



BOLT

Location

Loc Qty

Loc Code

ST345

71

113558

1

114653

2

115723

8

116381

60

D3672-1

Manufactured

No

230

Each

1,077.000

8



Phenolic Washer

Location

Loc Qty

Loc Code

ST077

1077

42329

10

52505

67

64177

1000

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
11/03/28	230	Assemble with NAS1515H3L / M113362	m/d	11/03/28	4		S 11/03/28

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 12

Work Order ID: 66759

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 2/25/2011

Required Date: 3/11/2011

Start Qty: 1.00

Required Qty: 1.00

D2741

Manufactured No

250

Each

79.0000

1

1



Blade, 350 Skidtube



Location

Loc Qty

Loc Code

ST466

79

60210

6

61341

33

63589

40

61341

D3532-1

Manufactured No

250

Each

31.0000

2

2



Spacer



Location

Loc Qty

Loc Code

ST065

31

62218

31

62218

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH:
ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- WELD PER DART QSI 004
- INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ($\phi 0.297$) FOR WEARSHOE INSERTS
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS.
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER.
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 66759
PS11-02-25

RELEASED
66-07-22-14

F	INCORPORATE DSI 9413; QTY (3) D3637-1 WAS QTY (5) (ZN C8-1); D3791-1/3 REPLACES D3535-13/35 (ZN C8-1); D3794-1/3 REPLACES D3536-13/35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 06-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS. CHANGE INSERTS: ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515H8L; REMOVE D2741, QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEO 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN	RA	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
DRAWN	RA		
CHECKED	RA	DRAWING NO.	REV. F
MFG. APPR.	RA	D2750	SHEET 1 OF 11
APPROVED	RA	TITLE	SCALE
DE APPR.	RA	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

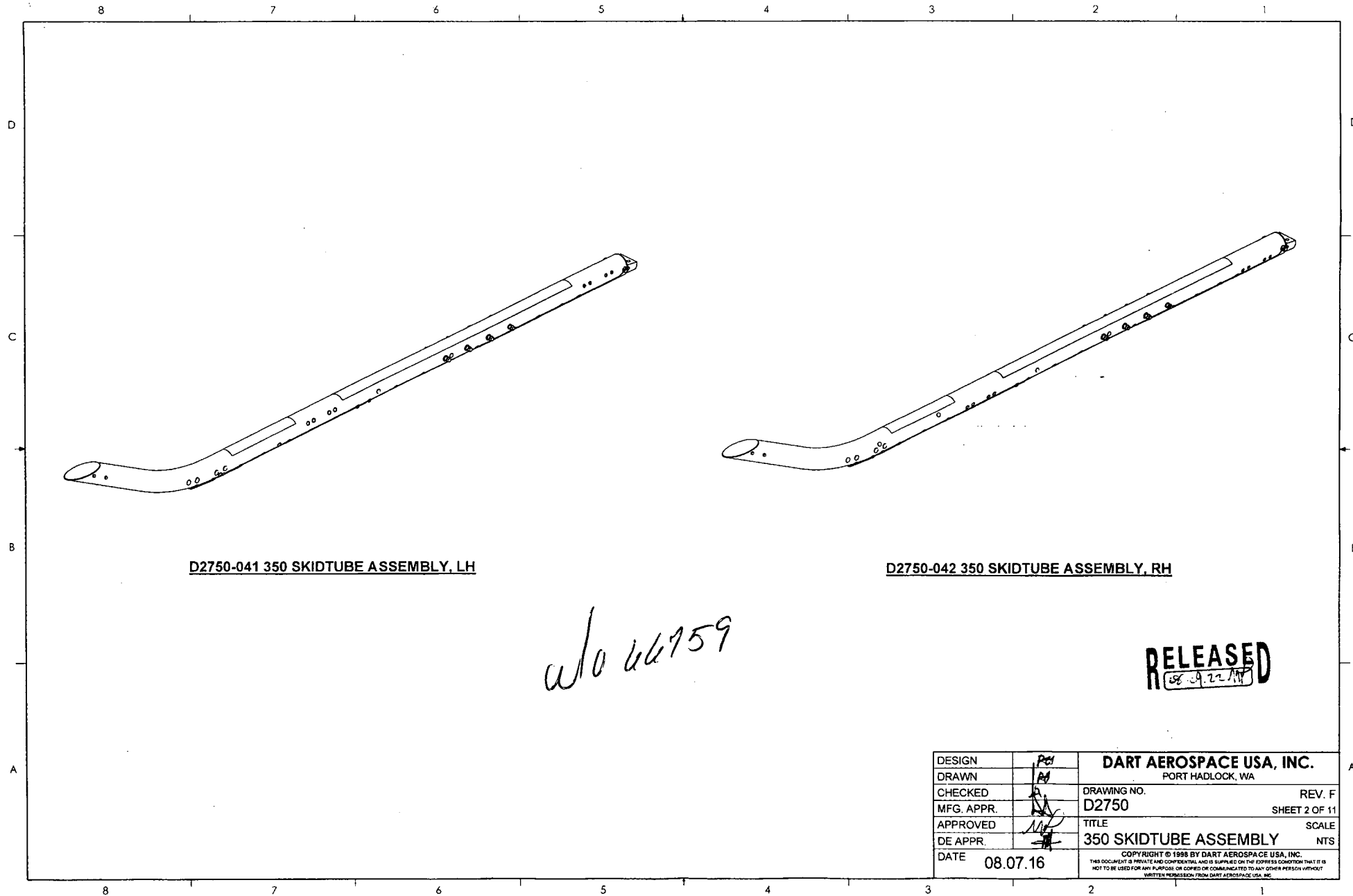
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2750-041 350 SKIDTUBE ASSEMBLY, LH

D2750-042 350 SKIDTUBE ASSEMBLY, RH

W/O 44759

RELEASED
8-9-77

DESIGN	PC	DART AEROSPACE USA, INC.	
DRAWN	JA	PORT HADLOCK, WA	
CHECKED	JA	DRAWING NO.	REV. F
MFG. APPR.	NA	D2750	SHEET 2 OF 11
APPROVED	ME	TITLE	SCALE
DE APPR.	ME	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	<small>COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

Dart Aerospace Ltd

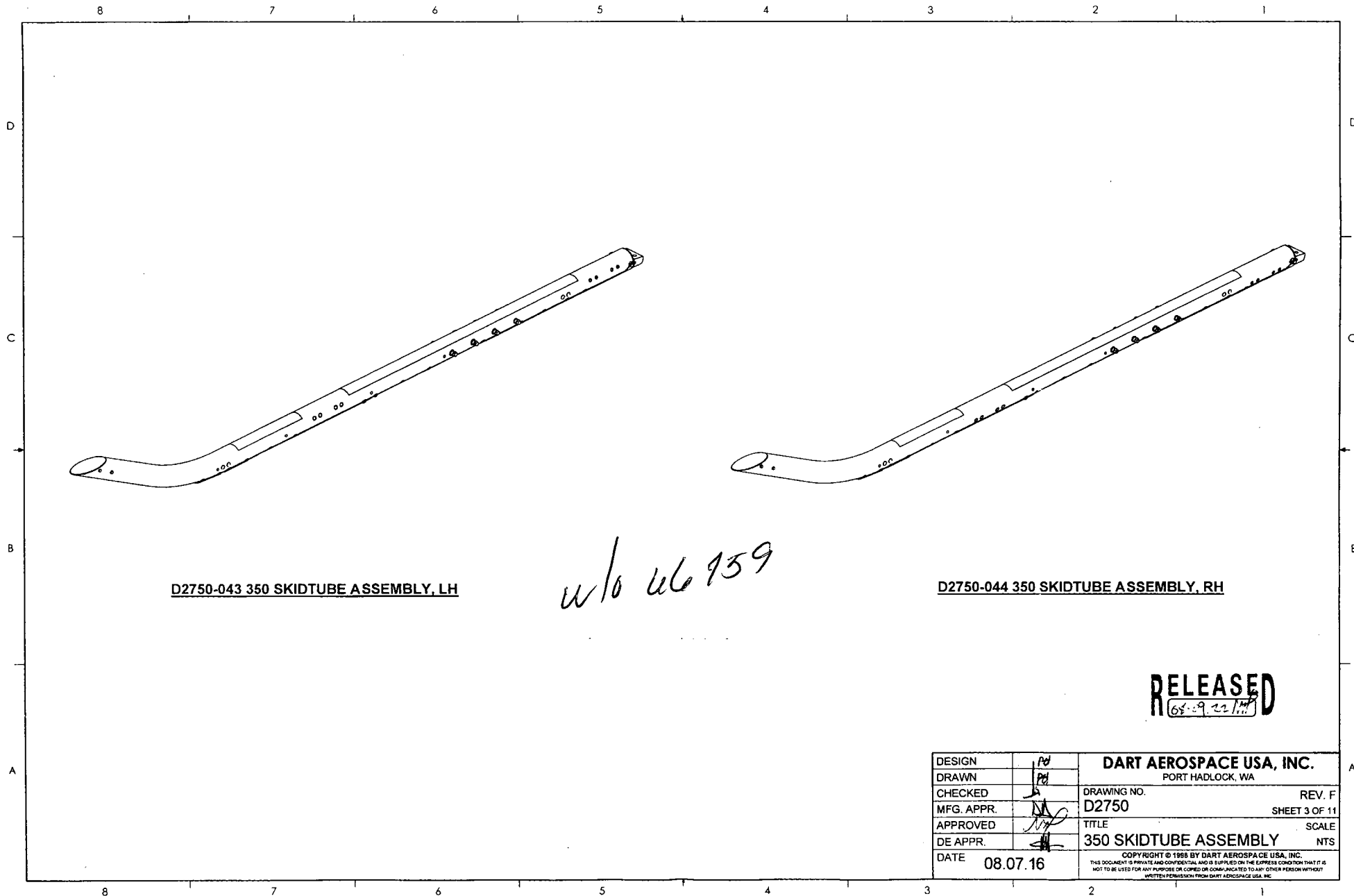
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2750-043 350 SKIDTUBE ASSEMBLY, LH

w/ 46 959

D2750-044 350 SKIDTUBE ASSEMBLY, RH

RELEASED
68-09-22/100

DESIGN	PD	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
DRAWN	PD		
CHECKED	PD	DRAWING NO. D2750	REV. F
MFG. APPR.	MA	SHEET 3 OF 11	
APPROVED	MA	TITLE	SCALE
DE APPR.	MA	350 SKIDTUBE ASSEMBLY NTS	
DATE	08.07.16	<small>COPYRIGHT © 1988 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

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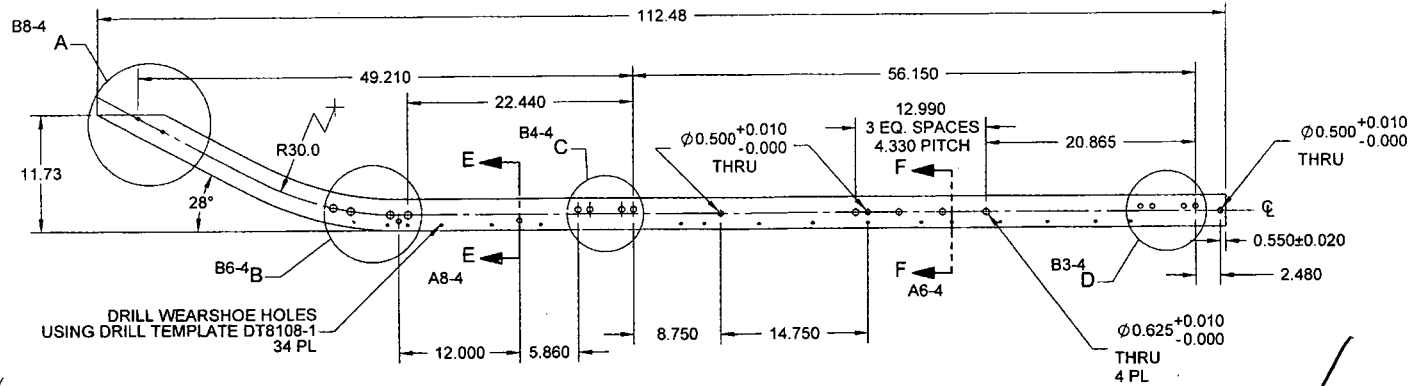
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

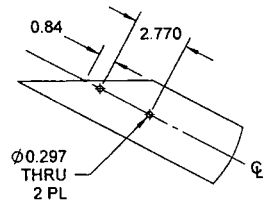
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

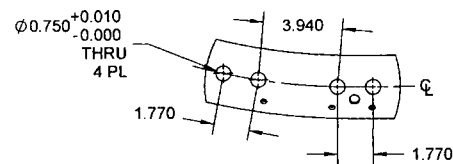
NOTE: Date & initial all entries



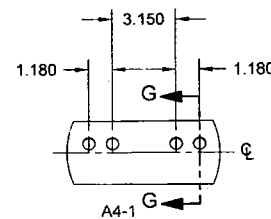
D2750-1 LH SKIDTUBE



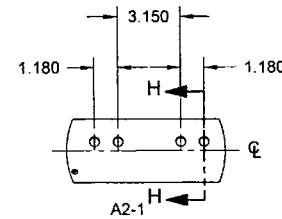
DETAIL A
SCALE 2X



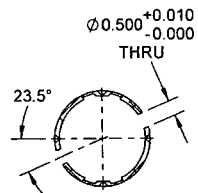
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SCALE 2X



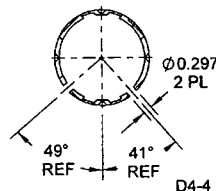
DETAIL C
SCALE 2X



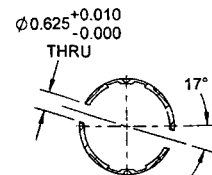
DETAIL D
SCALE 2X



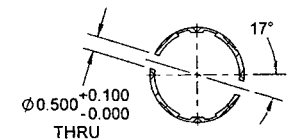
SECTION E-E
SCALE 3X, 2 PL



SECTION F-F
SCALE 3X, 17 PL



SECTION G-G
SCALE 3X, 4 PL



SECTION H-H
SCALE 3X, 4 PL

DESIGN	IPB
DRAWN	IPB
CHECKED	
MFG. APPR.	
APPROVED	
DE APPR.	
DATE	08.07.16

DART AEROSPACE USA, INC. PORT HADLOCK, WA	
DRAWING NO. D2750	REV. F
TITLE 350 SKIDTUBE ASSEMBLY	SCALE NTS
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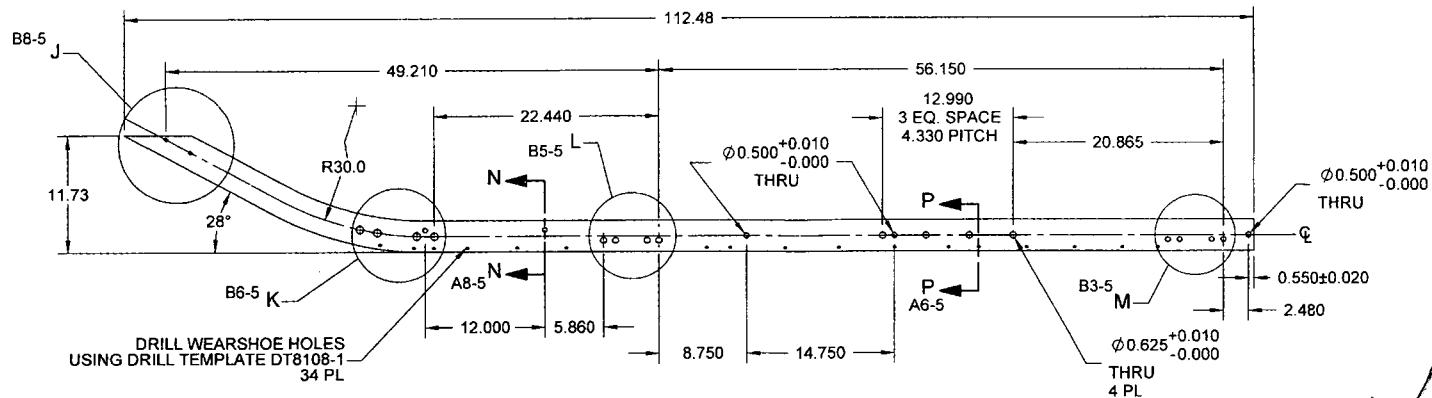
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

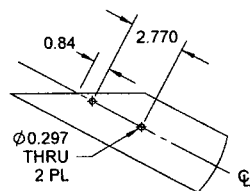
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

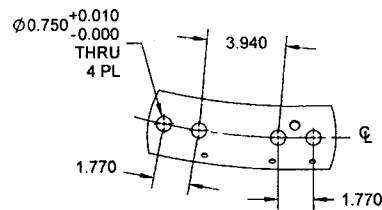


D2750-2 RH SKIDTUBE

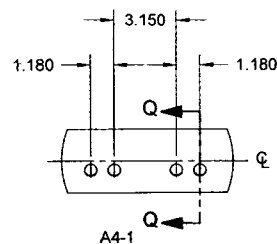
u/o 46759



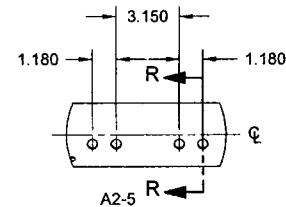
DETAIL J
SCALE 2X



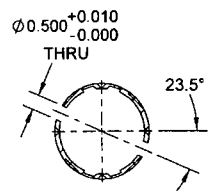
DETAIL K
SCALE 2X



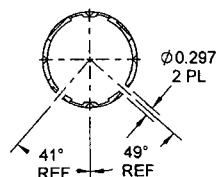
DETAIL L
SCALE 2X



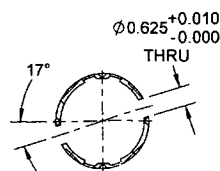
DETAIL M
SCALE 2X



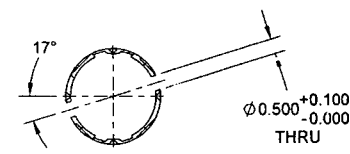
SECTION N-N
SCALE 3X, 2 PL



SECTION P-P
SCALE 3X, 17 PL



SECTION Q-Q
SCALE 3X, 4 PL



SECTION R-R
SCALE 3X, 4 PL

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DESIGN	PL	DART AEROSPACE USA, INC.	
DRAWN	PL	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2750	SHEET 5 OF 11
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8

7

6

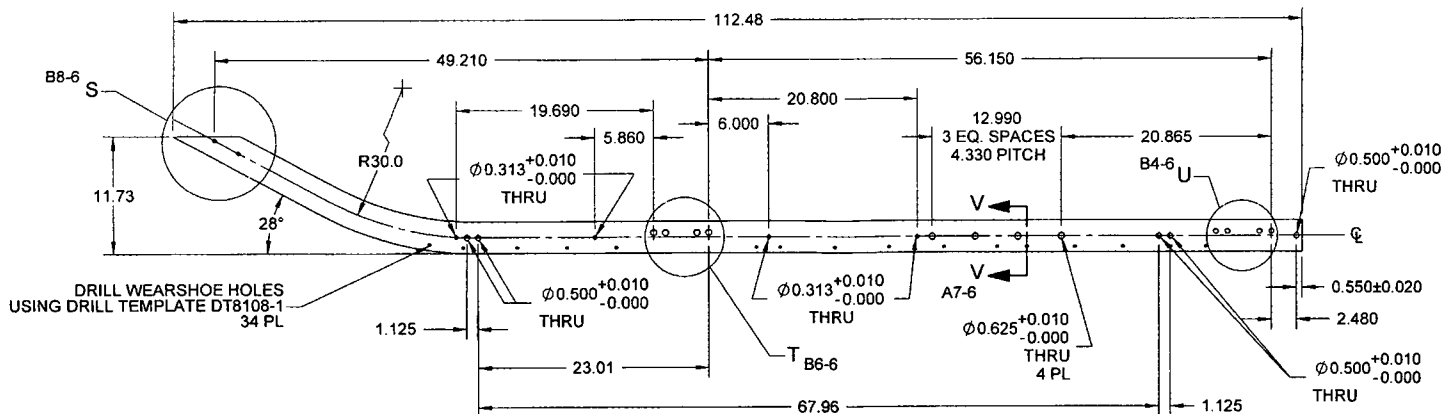
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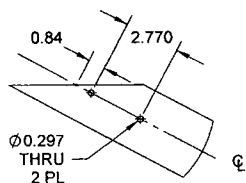
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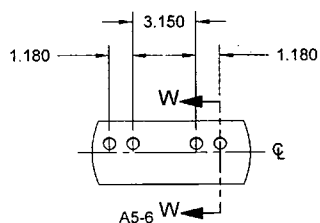
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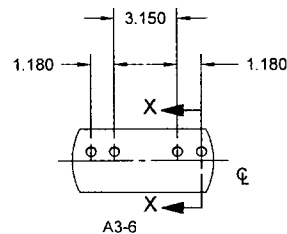
D2750-3 LH SKIDTUBE



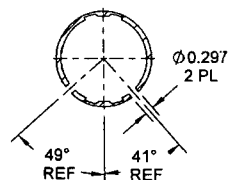
DETAIL S
D8-6
SCALE 2X



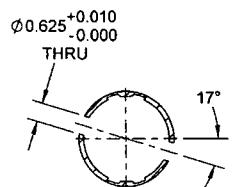
DETAIL T
C5-6
SCALE 2X



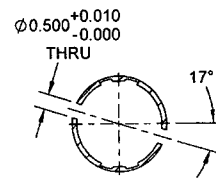
DETAIL U
D3-6
SCALE 2X



SECTION V-V
C4-6
SCALE 3X, 17 PL



SECTION W-W
B6-6
SCALE 3X, 4 PL



SECTION X-X
B4-6
SCALE 3X, 4 PL

u/w 66759

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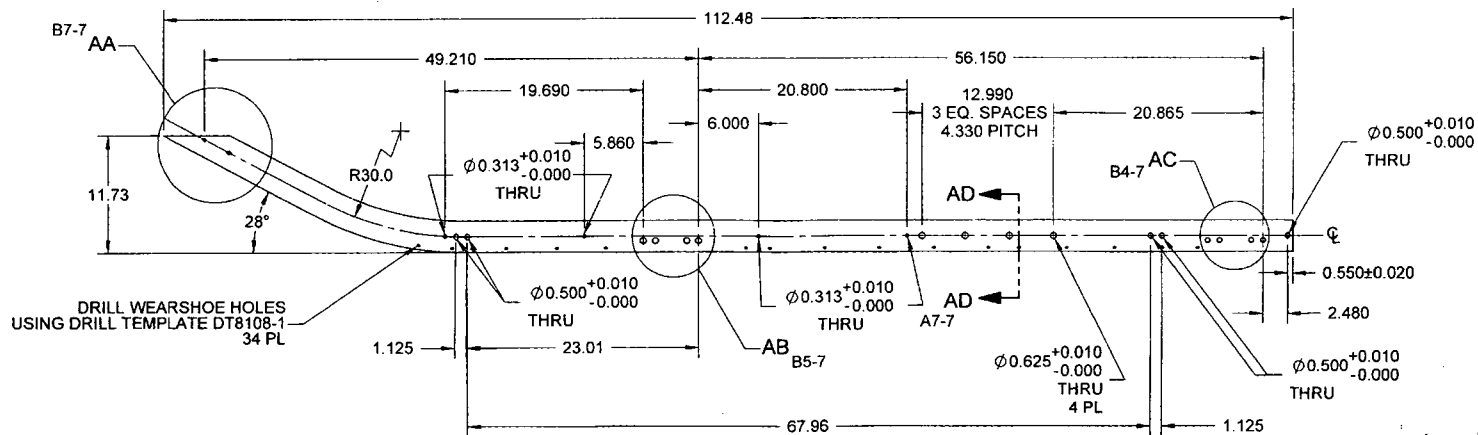
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

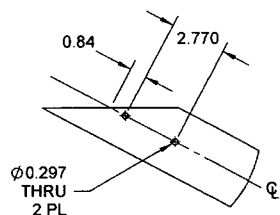
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

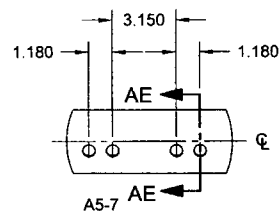
NOTE: Date & initial all entries



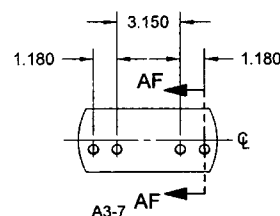
D2750-4 RH SKIDTUBE



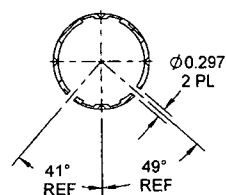
DETAIL AA
SCALE 2X



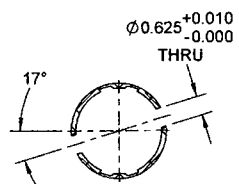
DETAIL AB
SCALE 2X



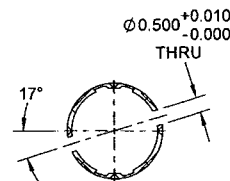
DETAIL AC
SCALE 2X



SECTION AD-AD
SCALE 3X, 17 PL



SECTION AE-AE
SCALE 3X, 4 PL



SECTION AF-AF
SCALE 3X, 4 PL

u/c 66759

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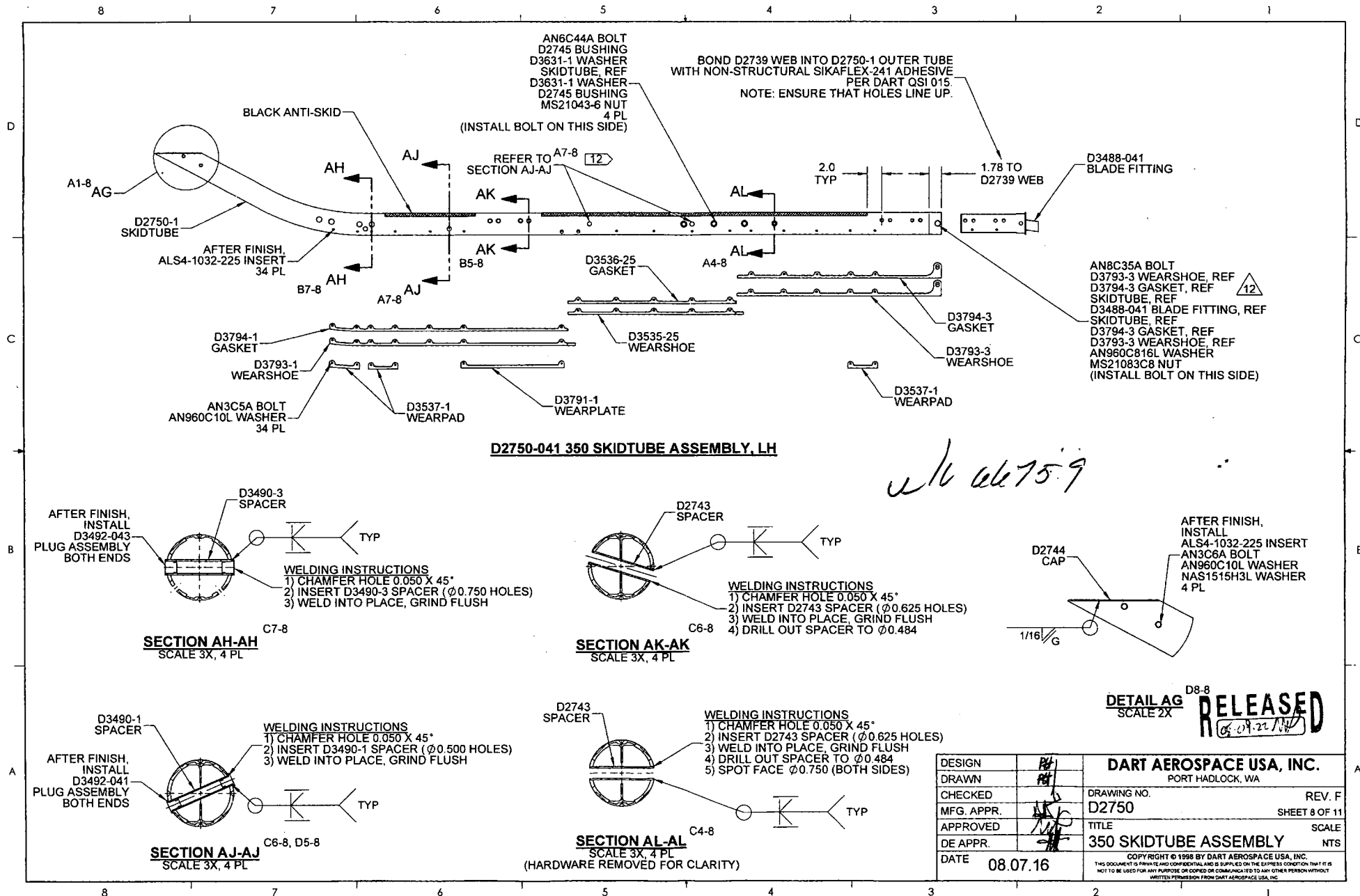
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

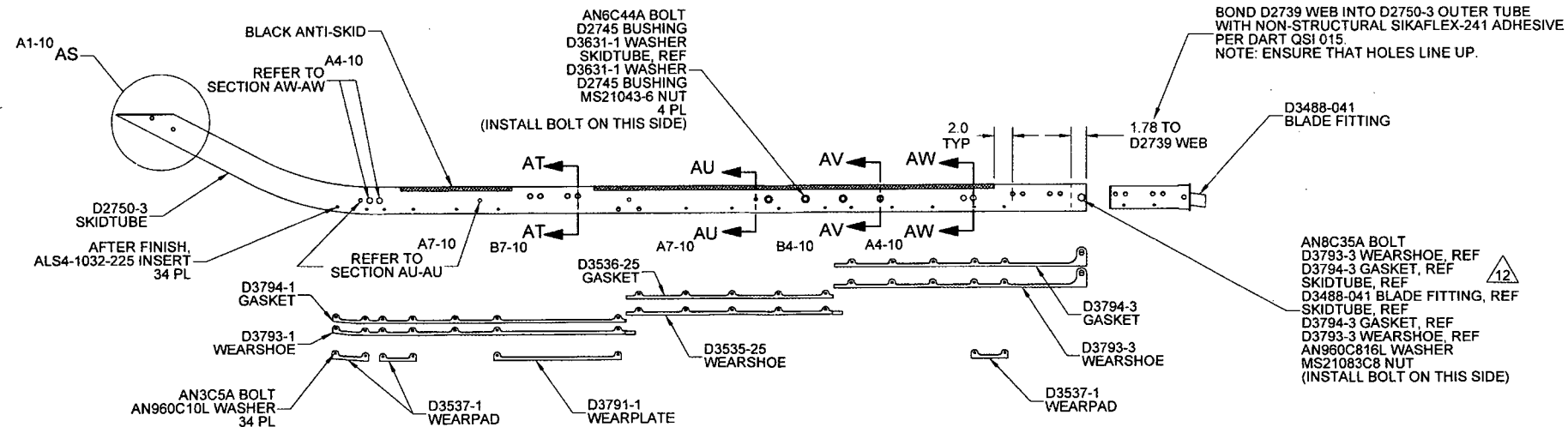
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

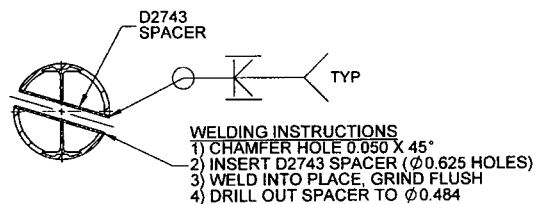
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

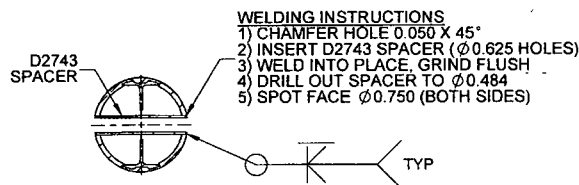
NOTE: Date & initial all entries



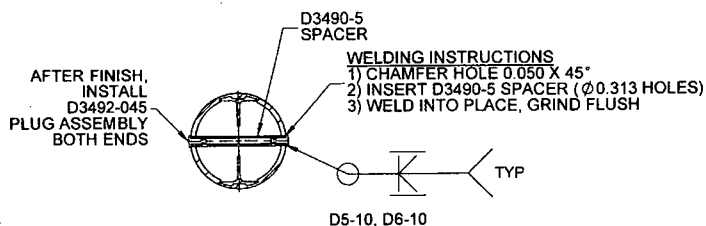
D2750-043 350 SKIDTUBE ASSEMBLY, LH



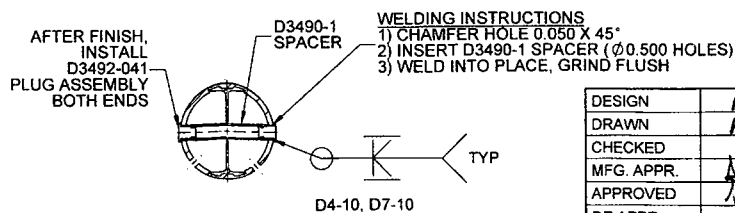
SECTION AT-AT SCALE 3X, 4 PL



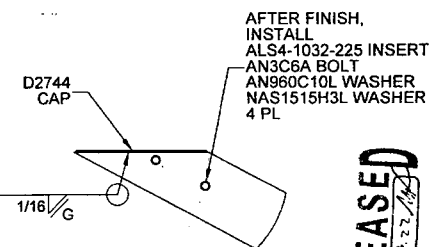
SECTION AV-AV SCALE 3X, 4 PL (HARDWARE REMOVED FOR CLARITY)









SECTION AU-AU SCALE 3X, 4 PL



SECTION AW-AW SCALE 3X, 4 PL



DETAIL AS SCALE 2X

DESIGN		DART AEROSPACE USA, INC.	
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MFG. APPR.		D2750	SHEET 10 OF 11
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28 JAN 22 1988

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

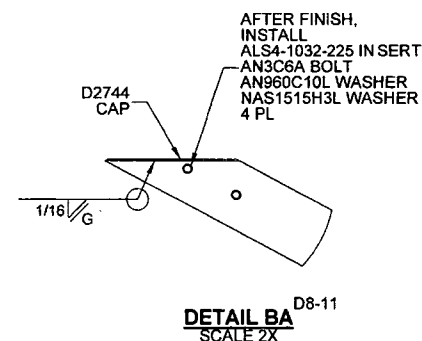
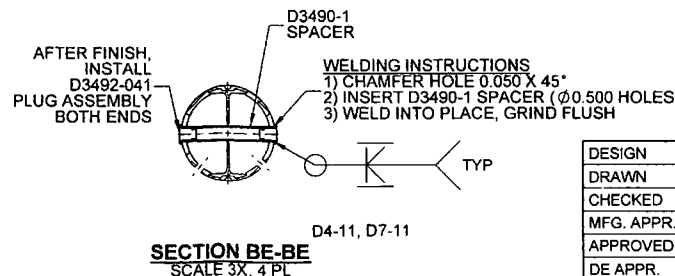
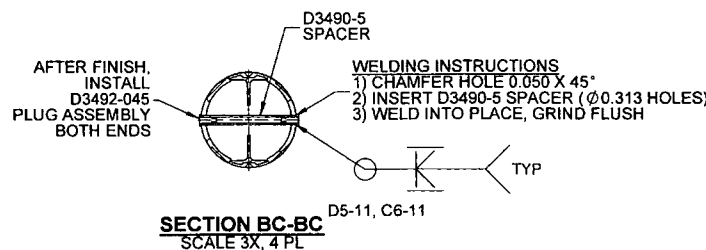
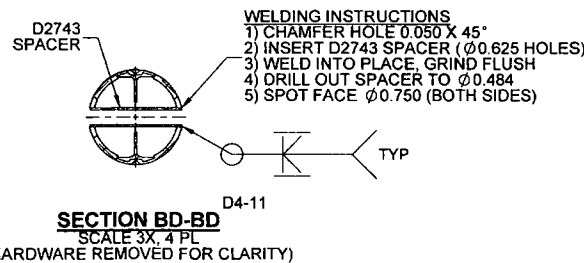
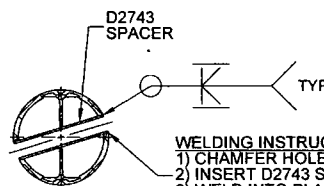
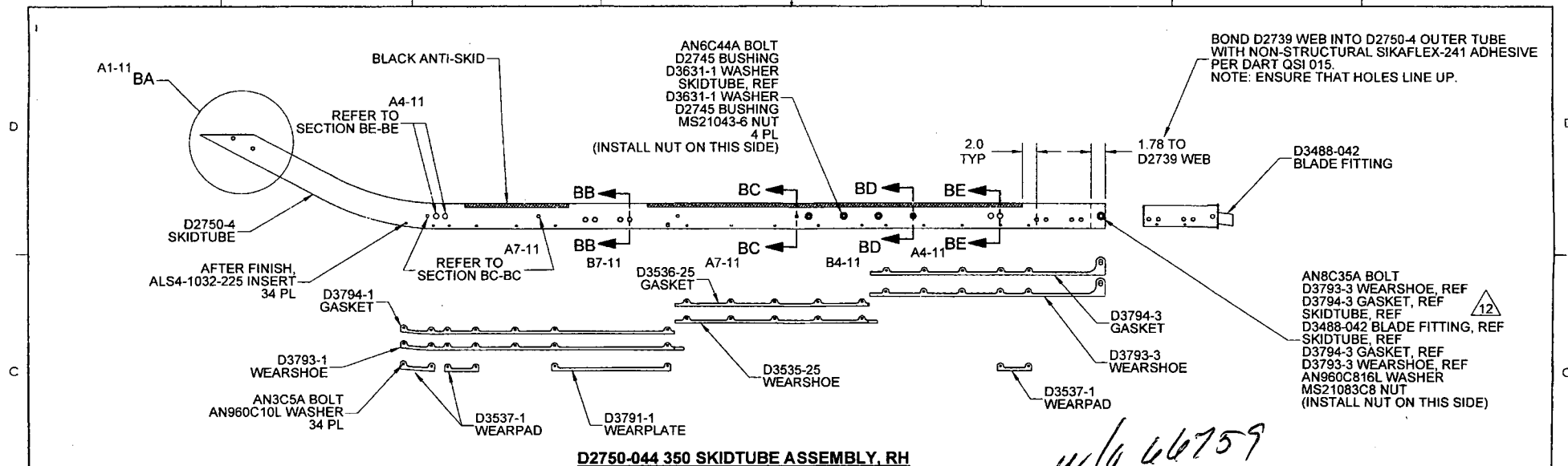
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8 7 6 5 4 3 2 1



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DESIGN	REV. F	DART AEROSPACE USA, INC.	
DRAWN	REV. F	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2750	SHEET 11 OF 11
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries !

NO. 243

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barkley Elliott
Job number: ~~64950~~ 64953
Part number: J350-636-016
Description: 350 skid tube
Welding Process: Tig[☒] Mig[],
Base material: Aluminum
Current: AC[] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier Salv. Brown Date of Test Coupon 11-01-18

Welder Barkley Elliott Date of Test Coupon 11-01-18

The above named individual is qualified in accordance with AWS D17.1.2001 to weld